

## Beyond Pandemic Necessity: Factors Influencing Consumers' Intention to Continue Online Grocery Shopping

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**Abstract.** This study explores what drives consumers to continue using online grocery shopping services after the COVID-19 pandemic. With the surge in digital adoption during the pandemic, understanding whether these changes in behaviour will persist is both timely and relevant. Focusing on five key factors—perceived convenience, perceived risk, service quality, social influence, and cultural elements—we collected data from 300 Malaysian consumers who had prior experience with online grocery shopping. Using multiple regression analysis, we examined how these factors influence consumers' intention to keep using such services. Our results show that all five factors play a significant role. Perceived convenience ( $\beta = 0.315$ ) and social influence ( $\beta = 0.294$ ) stood out as the strongest motivators, followed by service quality ( $\beta = 0.171$ ), perceived risk ( $\beta = 0.119$ ), and cultural factors ( $\beta = -0.140$ ). Interestingly, most respondents were young female university students (69.3%), indicating a key demographic for retailers to consider. For online grocery platforms to sustain customer engagement, they must focus on ease of use, reliable delivery, and leveraging peer influence through marketing. The findings also highlight the importance of addressing cultural sensitivities through localised strategies. This study adds to our understanding of post-pandemic shopping habits and offers practical insights for the industry.

**Keywords:** Online shopping, perceived convenience, perceived risk, service quality, social influence, culture

## **1. Introduction**

The global outbreak of COVID-19 induced a substantial transformation in consumer behavior, compelling a large segment of the population to embrace online grocery shopping as a precautionary measure for health and safety. The landscape of purchasing is undergoing a transformation with the advent of online shopping, signalling a shift in the conventional methods of acquiring goods. Purchasing groceries through online platforms involves the use of click-and-collect or home delivery services. Opting for online shopping is more convenient than traditional in-store purchases, providing numerous benefits such as time and cost savings, reduced physical exertion, and easy access to a diverse array of products (Wijeratne & Kuruppu, 2022). The ongoing impact of the COVID-19 pandemic has further prompted consumers to increasingly favour and transition towards online shopping.

Online grocery ordering gained popularity in the 1990s during the dot-com boom in the United States (Testa, 2023). While the initial enthusiasm waned, leading to bankruptcies among some online shopping services, a few resilient ones weathered economic challenges (Testa, 2023). Today, the market boasts numerous online grocery retailers, with experts predicting sustained profitability and ongoing growth in popularity (Testa, 2023). This resilience and growth underscore the adaptability and lasting appeal of online grocery shopping in the consumer landscape.

It was a considerable duration before online grocery sales gained widespread popularity. As reported by Morgan (2021), a substantial 81% of American consumers had not engaged in online grocery purchases in 2019. Nevertheless, the dynamics shifted dramatically with the start of the COVID-19 pandemic. In 2020, a notable 79% of consumers in the United States opted for online grocery orders. From August 2019 to June 2020, online grocery sales in the United States surged from 1.2 billion USD to 7.2 billion USD (Morgan, 2021).

Lazada and Shopee stand out as prominent online grocery platforms in Malaysia, serving as primary sources for digital grocery shopping (Sperresearch, 2023). In addition to these e-commerce giants, Malaysians frequently turn to alternative grocery delivery services such as HappyFresh, Lotus's, and MyGrocer, as well as apps like Grab and FoodPanda (Sperresearch, 2023). A increasing amount of e-grocery options are available to meet the expanding demand; astute consumers are now thoroughly comparing the costs, brands, special offers, discounts, and delivery times of different online grocery businesses. The challenges affecting consumers' intentions to continue online grocery shopping post the COVID-19 pandemic are multifaceted. One significant issue stems from the potential reversion to pre-pandemic shopping behaviors as the urgency and necessity for online shopping diminish with the easing of restrictions. Consumers may find traditional in-person grocery shopping more convenient or prefer the tactile and sensory experience of selecting their own products. Moreover, concerns about the reliability of online grocery deliveries and the perceived quality of products may erode consumer confidence. Delivery delays, damaged goods, or other logistical issues could contribute to a decline in trust in the online shopping experience. Social dynamics and family outings or designated family shopping days may lead consumers to choose in-store shopping as a shared activity rather than opting for the solitary nature of online grocery shopping. Additionally, the post-pandemic retail landscape may witness increased competition and innovations in traditional grocery stores, influencing consumer preferences and loyalty. These factors collectively contribute to the complex landscape influencing consumers' intentions regarding the sustained adoption of online grocery shopping post-COVID-19.

The advent of the Internet and technological advancements has transformed the way consumers acquire products and services, catalyzing the surge in online shopping. This paradigm shift in consumer behavior underscores the rapid adoption of this unconventional yet convenient method of global shopping. Notably, the realm of grocery purchases has witnessed a parallel escalation in tandem with the popularity of individual internet shopping. Among various online shopping sectors, online grocery shopping stands out as the most swiftly evolving, signifying a profound shift in consumer preferences and purchasing patterns.

A nationwide survey indicates that many individuals who first embraced online grocery shopping during the pandemic plan to continue this practice, facilitated by a greater sense of self-efficacy and diminished concerns about associated costs Trude et al. (2025). This shift is primarily attributed to the perceived value that consumers derive from online shopping, which enhances their shopping experience and aligns with contemporary consumer expectations for convenience and accessibility (Duffy et al., 2022). Retailers have reported increased interest from demographic segments, including lower-income households and those traditionally underserved, reinforcing the idea that online grocery shopping is bridging gaps in food accessibility (Restrepo & Zeballos, 2024).

The challenges affecting consumers' intentions to continue online grocery shopping post the COVID-19 pandemic are multifaceted. One significant issue stems from the potential reversion to pre-pandemic shopping behaviors as the urgency and necessity for online shopping diminish with the easing of restrictions. Consumers may find traditional in-person grocery shopping more convenient or prefer the tactile and sensory experience of selecting their own products. Moreover, concerns about the reliability of online grocery deliveries and the perceived quality of products may erode consumer confidence. Delivery delays, damaged goods, or other logistical issues could contribute to a decline in trust in the online shopping experience. Social dynamics and family outings or designated family shopping days may lead consumers to choose in-store shopping as a shared activity rather than opting for the solitary nature of online grocery shopping. Additionally, the post-pandemic retail landscape may witness increased competition and innovations in traditional grocery stores, influencing consumer preferences and loyalty. These factors collectively contribute to the complex landscape influencing consumers' intentions regarding the sustained adoption of online grocery shopping post-COVID-19.

Social dynamics can also play a role; for instance, friends inviting each other for physical shopping trips may sway individuals away from online platforms, as the social aspect becomes a crucial part of the shopping experience. Additionally, family outings or designated family shopping days may lead consumers to choose in-store shopping as a shared activity rather than opting for the solitary nature of online grocery shopping. These factors underscore the multifaceted nature of consumer behavior, where convenience competes with social and personal preferences in shaping the decision-making process for post-pandemic grocery shopping.

In the realm of online shopping, a perceived risk arises when customers experience uncertainty and apprehension about potential financial loss, non-delivery issues, and the misuse of personal information (Iconaru et al., 2013). These factors collectively contribute to a diminished online purchase intention among customers. The inherent risk associated with every online payment transaction, particularly when using credit cards or debit cards, induces unease among customers. This apprehension stems from the fear of cybercriminals infiltrating databases and illicitly obtaining payment-related and other sensitive information, resulting in financial losses (Braun et al., 2008). Hence, this perceived risk becomes a significant barrier affecting consumers' intentions to continue engaging in online grocery shopping. In the context of online grocery shopping, the lack of product information can create uncertainty and concerns about the quality, suitability, or reliability of the products being purchased. The most prominent obstacle hindering online shopping is identified as the absence of product information, with 37% of respondents citing it as a significant factor (Afzainizam et al., 2021). Consumers may perceive a higher risk when they feel they don't have enough information about the products they are considering, which could influence their intention to continue or discontinue online grocery shopping.

Convenience emerges as a distinct motivator for online retail choices, characterizing a category of consumers known as "convenience shoppers" who prioritize time and effort savings in their purchase (Kumari, 2022). By eliminating the need to visit physical stores, online shopping fosters greater familiarity and flexibility, allowing customers to shop from the comfort of their homes at any time and location. The convenience factor extends to improved access to product information and alternative

options, reducing search costs and enhancing the overall user experience, particularly for time-pressed consumers (Kumari, 2022). Ultimately, this emphasis on convenience contributes to a more enjoyable and frustration-free shopping experience, combining elements of "usefulness" and "ease of use" for customers in the online retail landscape.

There exists a division between contemporary studies that emphasize technology acceptance models (TAM) and those that focus on situational effects introduced by global events such as the COVID-19 pandemic. Studies have highlighted that perceived usefulness and perceived ease of use are critical factors in driving acceptance of online grocery shopping services (Ruangkanjanases et al., 2021; , (Sulastri et al., 2017). However, the role of consumers' hedonic motivations and perceived risks, particularly as mediators in the acceptance of technology, merits further exploration (Habib & Hamadneh, 2021). While consumers may initially adapt their behaviors concerning perceived risks associated with online shopping, understanding trust and security implications within the digital grocery landscape is vital for considering their long-term intentions.

Moreover, existing literature underscores how external factors, such as time constraints and accessibility to the internet, significantly influence shopping behavior (Restrepo & Zeballos, 2024; , Galushko & Riabchyk, 2024). However, these findings do not fully account for intrinsic consumer motivations or how demographic factors, such as gender and income, interact with intentions to transition from traditional to online grocery shopping (Handayani et al., 2020), Duffy et al., 2022). There is a notable gap in studies specifically focusing on gender differences in consumer intent during this transition, and certain studies suggest that these differences might significantly influence shopping behaviors (Handayani et al., 2020).

This study explores consumers' intentions in continuing online grocery shopping post the COVID-19 pandemic, focusing on the factors guiding satisfaction in this evolving retail landscape. As consumers' satisfaction with online grocery shopping becomes a pivotal aspect in the post-pandemic era, understanding the key drivers is essential. The independent variables, such as perceived convenience, perceived risk, service quality, and social influence, and culture factors play significant roles in shaping consumers' satisfaction and subsequent intentions to continue online grocery shopping.

## **2. Literature Review and Hypotheses Development**

The concept of intention pertains to a triggering factor that contributes to the initiation of a consumer's decision to purchase a specific product. (Hawkins et al., 2010). Understanding the intentions of consumers enables companies to delve deeper into the fundamental reasons behind each purchase. The examination of consumers' intentions stands as a frequently explored subject among businesses, given its significance in comprehending and foretelling actual consumer purchasing behaviors (Khikmatov, 2020). In 1991, Azjen outlined a clear connection between consumer intentions and tangible purchases, offering insights into the correlation. Azjen also defined intention as an indicator of an individual's willingness to actively engage in a given behavior. The stronger the intention, the greater the likelihood that the consumer will carry out the required behavior. As per Su and Huang (2010), purchase intention among consumers is regarded as an integral aspect of their cognitive behavior, revealing the anticipated manner in which individuals plan to buy a particular brand. Specifically, online purchase intention signifies a scenario wherein customers express their willingness to engage in online transactions (Ling et al., 2010). The assertion by Bai et al. (2008) emphasizes that the ultimate purchasing behavior stems from consumer intention, underscoring the significance of comprehending purchase intention. The research findings indicate that consumers play a pivotal role in deciding whether to proceed with a purchase (Kim et al., 2008). Moreover, it is noted that consumer purchase intention is typically influenced by the quality and quantity of available information (Park et al., 2007). In the contemporary landscape, sellers not only strive to persuade consumers to utilize their online platforms but also aim to encourage repeat purchases through various channels (Chiu et al., 2012).

Moreover, Duffy et al. (2022) examined demographic correlates associated with online grocery shopping during the pandemic and found that women and households with children were more likely to engage in online shopping. Significantly, younger individuals and those with higher education levels were also more inclined to adopt online shopping, emphasizing demographic factors as vital predictors of shopping behaviors post-pandemic.

Trude et al. (2025) employed a mixed-methods approach to reveal that older shoppers ( $\geq 30$  years) among SNAP-eligible households were among the early adopters of online grocery shopping. This study highlighted the necessity of examining individual and household factors to understand the dynamics of online grocery shopping adoption in the context of financial assistance programs.

Perceived convenience in online grocery shopping means how easy and smooth the shopping experience feels to the customer. It includes things like how simple it is to move around the website, how easy it is to place an order, and the overall convenience of getting groceries online. For consumers, there are two types of convenience – product and service (Chang et al., 2012). The assessment of whether a product or service is convenient is based on factors such as the time and effort involved (Berry et al., 2002). Convenience is recognized as encompassing "all products or methods that reduce the time and effort spent by customers, including physical goods or services" (Berry et al., 2002). Amidst the post-COVID-19 landscape, with the rise of online grocery shopping, recognizing the significance of perceived convenience becomes increasingly crucial. Businesses must adjust and enhance their online platforms to align with the evolving expectations and preferences of their customers as consumer behaviours transform. Research in this domain delivers practical insights, empowering businesses to fine-tune their approaches, enhance convenience features, and secure the ongoing success of their online grocery shopping services. Perceived convenience represents the benefits linked to customers' belief that online shopping is easier, less risky, offers a diverse range of products, is more budget-friendly, and is more convenient compared to traditional shopping (Chowdhury, 2023). As noted by Huang & Oppewal (2006), online shopping, unlike in-store purchases, provides added convenience, allowing consumers to shop from any place at any time. Building on a previous investigation by Huang and Oppewal (2006), it is clear that the importance of perceived convenience plays a crucial role in influencing consumers' decisions in the realm of online grocery shopping. The impact of perceived convenience on customers' intention to purchase groceries online stems from the simplicity and efficiency customers associate with the online shopping process. When customers view online grocery shopping as convenient, thanks to user-friendly websites, speedy delivery, and easily accessible product information, it positively shapes their intention to use this channel for their purchases.

*H1 : There is a significant relationship between perceived convenience and consumer 's intention in continuing online grocery shopping post covid19 pandemic.*

In 1967, Bauer introduced the concept of perceived risk for the first time. He posited that consumer behaviour can lead to unforeseeable outcomes, with some potentially resulting in dissatisfaction. Thus, consumer actions inherently encompass a degree of risk. Bauer highlighted that perceived risks predominantly revolve around the uncertainty associated with decisions and the gravity of decision outcomes. Blankertz & Cox, (1969) suggested that when consumers are unable to ascertain which product or service aligns with their needs, or when the outcomes of a purchase fail to meet their expectations, it may give rise to perceived risks. The essence of the argument revolves around situations where individuals find it challenging to determine which product or service would best suit their needs. Additionally, if the outcomes of a purchase do not align with their expectations, it can contribute to the perception of risks. In my perspective, the influence of perceived risk on the intention to purchase groceries online is substantial. Online retailers must grasp the factors contributing to these risks and proactively devise solutions to address the challenges faced by customers, ultimately driving sales in

their online ventures, as highlighted by Jain et al. in 2017. The perceived risks experienced by customers play a crucial role in shaping their trust levels towards sellers, consequently influencing their ultimate purchase decisions, as articulated by Martin et al. in 2015. Blankertz & Cox (1969) proposed that when consumers struggle to determine which product or service best fits their needs, or when the outcomes of a purchase fall short of their expectations, it can lead to the perception of risks. Building on prior studies, the decision-making process in online shopping is increasingly affected by perceived risk, as highlighted by Liebermann and Stashevsky in 2002. Perceived risk in the context of online grocery shopping may include concerns about product quality, the security of personal information, reliability of delivery, or the complexity of the return process. When people feel that online grocery shopping is riskier, they tend to hesitate and are less likely to buy things online. On the flip side, when they think the risks are low, they feel more confident and willing to choose online grocery shopping as an easy and practical choice. So, it's really important to handle and reduce these perceived risks to encourage customers to have positive intentions when it comes to buying groceries online.

*H2 : There is a significant relationship between perceived risk and consumer 's intention in continuing online grocery shopping post covid19 pandemic.*

Service quality refers to the overall excellence and satisfaction experienced by customers when they interact with a service provider. According to the findings of Rust and Oliver (1994), service quality can be defined as the perceived variance between customers' expectations and the actual performance experienced during a specific moment or event. They emphasize that service quality can be measured by assessing the degree to which the delivered service either meets or surpasses customer expectations. The authors highlight the multi-dimensional nature of how customers perceive service quality, particularly emphasizing the importance of the expected service level that customers anticipate from the service provider. Furthermore, it is noteworthy that various authors, such as Ingemarson and Andersson (2022), have offered diverse explanations and definitions for the phenomenon of service quality, highlighting the nuanced perspectives within the scholarly discourse on the subject. Service quality reflects the overall satisfaction and excellence customers feel when dealing with a service provider. In the research by Parasuraman et al. (2005), the quality of electronic services is described as how well a website helps customers navigate, inquire, and make transactions, while also ensuring convenient distribution of products and services. It's crucial that service quality meets customers' expectations (Chakrabarty & Tan, 2007). When customers encounter top-notch service quality in the online grocery shopping process, including quick and dependable delivery, easy-to-use websites, and responsive customer support, it boosts their overall satisfaction. Satisfied customers are more likely to form positive intentions when it comes to buying groceries online.

*H3 : There is a significant relationship between service quality and consumer 's intention in continuing online grocery shopping post covid19 pandemic.*

Social influence pertains to the manner in which an individual's thoughts, emotions, and actions are shaped by the existence or conduct of those around them. As per Venkatesh et al. (2003), social influence is characterized by an individual's perception of adopting a new system, influenced by significant individuals in their life. Previous research has indicated that social influence is constructed through the integration of individual norms and personal attributes (Johnston & Warkentin, 2010). These attributes serve as pivotal elements of influential societal forces that have the potential to impact customers' perceptions and behaviours. According to Venkatesh et al. (2003), social influence means a person's view of adopting a new system, influenced by important people in their life. The encouragement from family, relatives, or friends to try online grocery shopping represents a social influence coming from their close social circle (Alaimo et al., 2020). This agrees with the findings of

Singh (2019), who, in a study on online grocery shopping, identified social factors as one of the main things affecting how online shoppers behave. When people see their friends, family, or social connections using online grocery shopping and having good experiences, it tends to make a positive impact. Positive social influence can boost confidence, while negative social influence can make people less likely to choose online grocery shopping. The opinions and experiences of those in someone's social circle play a big role in influencing whether they want to buy groceries online.

*H4 : There is a significant relationship between social influence and consumer 's intention in continuing online grocery shopping post covid19 pandemic.*

Culture has a strong impact on how people think, act, and choose (Alemohamad, 2023). When we buy things, our cultural background, beliefs, and values play a big role in our decisions (Alemohamad, 2023). Culture encompasses the collective beliefs, values, customs, and actions of a community, shaping how its members engage with the world. It's a multifaceted aspect that molds our identities and plays a role in our choices, including how we go about consuming goods and services. Culture serves as a link between employees, customers, and communities within the organization. This perspective is backed by Deal and Kennedy (1984), who posit that culture is about the methods employed within the organization, reflecting our beliefs concerning individuals, performance, and productivity. While the term "culture" may carry diverse meanings across various academic disciplines, within the realm of e-commerce, it is characterized as a collective of individuals who exhibit comparable patterns of thinking, emotions, or actions (Refaat & Galal, 2009). Culture stands as the primary and foundational determinant shaping consumer buyer behavior, as noted by Mazikana (2023). By taking into account the dimensions of culture, businesses can customize marketing approaches, user interfaces, and service offerings to harmonize with the cultural preferences and values of their intended audience. This awareness becomes instrumental in fostering the triumph and longevity of online grocery shopping services beyond the COVID-19 pandemic, guaranteeing positive reception across a spectrum of diverse cultural contexts. In our purchasing decisions, our decisions are significantly influenced by our cultural background, beliefs, and values (Alemohamad, 2023). Hofstede's theory in 2001 describes culture as shaping our accustomed ways of thinking. Geert Hofstede's Cultural Dimension Theory introduces five dimensions which are Power Distance Index (PDI), Individualism vs. Collectivism (IDV), Masculinity vs. Femininity (MAS), Uncertainty Avoidance Index (UAI), and Long-Term Orientation vs. Short-Term Normative Orientation (LTO). These dimensions underscore how cultural values impact individuals' behavior and preferences. Recognizing and taking into account these cultural factors is crucial for businesses to customize their online grocery services, meeting the diverse expectations and preferences of various cultural groups. This, in turn, influences customers' inclinations to participate in online grocery shopping.

*H5 : There is a significant relationship between cultural factors and consumer 's intention in continuing online grocery shopping post covid19 pandemic.*

## 2.1 Research Framework

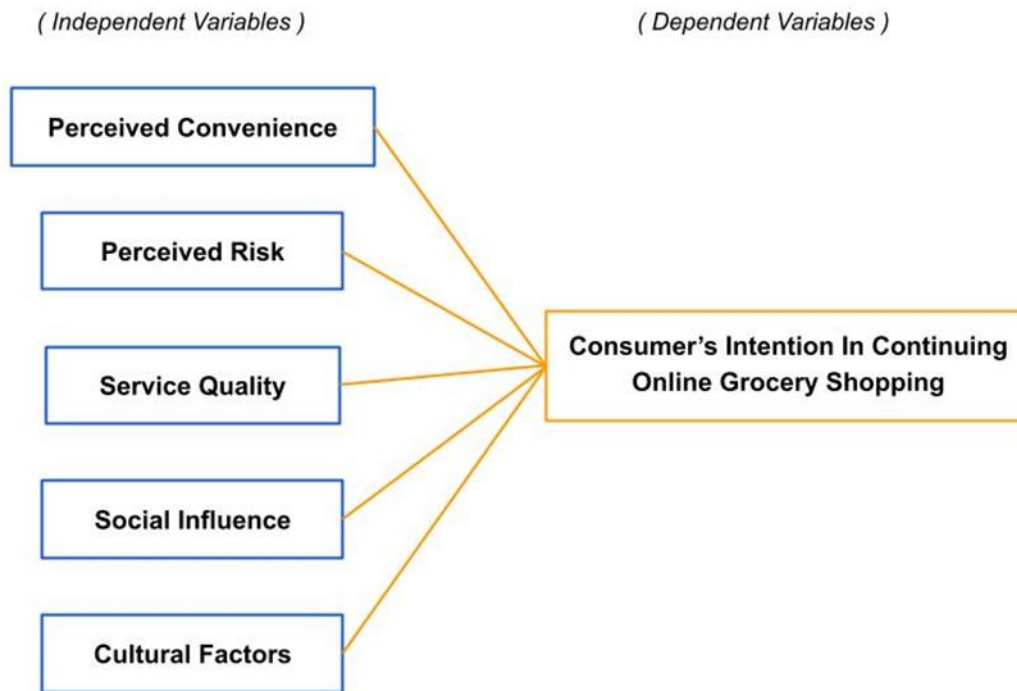


Fig.1: Research Framework (Developed for this research)

The conceptual framework serves as the essential groundwork for a research study, providing readers and audiences with a clear understanding of the investigation's focus. Figure 1 visually illustrates the relationships between independent and dependent variables, offering a straightforward representation for the audience. The motivation behind this research lies in understanding the reasons for these relationships. The independent variables include perceived convenience, perceived risk, service quality, social influence, and cultural factors. On the other hand, the primary focus of this study is the dependent variable, which is consumers' intention to continue online grocery shopping post the COVID-19 pandemic.

## 3. Method

This study set out to explore how various factors namely perceived convenience, perceived risk, service quality, social influence, and cultural background influence consumers' intentions to continue using online grocery services after the COVID-19 pandemic. A quantitative approach was selected as it provides a structured way to uncover patterns, measure relationships, and draw conclusions that can be applied more broadly (Bhandari, 2023).

Data were collected through an online questionnaire, created using Google Forms. To ensure a wide and varied reach, the survey link was shared across multiple social media platforms, including Facebook, Instagram, and Xiao Hong Shu. These channels were chosen for their ability to connect with a broad demographic of individuals familiar with online grocery shopping.

Participants in this study were individuals aged 18 and above who had experience purchasing groceries online. Particular attention was given to encouraging participation from people of different genders,

ethnic backgrounds, income levels, and levels of familiarity with online shopping platforms. In total, 300 valid responses were obtained, providing a diverse base for analysis.

A non-probability sampling strategy was adopted for this research, combining convenience sampling and judgmental sampling. Convenience sampling allowed easy access to respondents through online platforms, while judgmental sampling involved selecting individuals who were likely to have relevant experience and views on online grocery shopping post-pandemic. Although this approach does not allow for randomisation, it was well-suited to the exploratory nature of the study, where capturing a range of informed perspectives was prioritised.

The questionnaire was based on existing scales from earlier research into online consumer behaviour, with adaptations made to suit the specific context of post-pandemic grocery shopping. The questionnaire was based on established scales adapted from previous research on online consumer behaviour. Items measuring consumer intention and perceived risk were adapted from Cheng et al. (2022). Measures for perceived convenience were adapted from Beauchamp and Ponder (2010), while service quality items were adapted from Rita et al. (2019). Social influence measures were adapted from Fu et al. (2020), and cultural factors items were adapted from Asamoah and Chovancová (2016). Each construct was assessed using five items, making a total of 25 indicators overall. All items were measured on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5).

Analysis of the data was conducted using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to summarise participant demographics and shopping behaviours, while multiple regression analysis was applied to examine the relationships between the independent variables and consumers' intentions to continue online grocery shopping.

Ethical considerations were fully addressed. Participation was voluntary, and all respondents were informed about the purpose of the study before starting the questionnaire. They were assured that their identities and responses would remain confidential. Informed consent was obtained electronically, and due to the non-invasive nature of the study, formal ethical approval was not deemed necessary.

## 4. Findings

The multifaceted analysis of factors influencing consumers' intentions to continue online grocery shopping revealed significant insights derived from a synthesis of quantitative data. The results indicate that multiple dimensions, including perceived convenience, perceived risk, service quality, social influence, cultural factors, consumer demographics, play pivotal roles in shaping shopper behaviors in the online grocery marketplace.

Table 1: Demographics

Variables		Frequency	Percentage (%)
<b>Gender</b>	Male	92	30.7
	Female	208	69.3
<b>Age</b>	Below 20 years old	15	5.0
	21-30 years old	254	85.0
	31-40 years old	7	2.0
	41-50 years old	12	4.0
	Above 50 years old	12	4.0
<b>Race</b>	Malay	25	8.3

	Chinese	253	85.0
	Indian	22	7.3
<b>Occupation</b>	Student	230	77.0
	Working	61	20.3
	Unemployed	5	1.7
	Retired	4	1.3
<b>Used with online grocery shopping?</b>	Yes	249	83.0
	No	51	17.0

In this study, 300 questionnaires were disseminated among the participants. Table 1 presents the frequency and percentage of demographic data pertaining to 300 respondents. Specifically, the table indicates that out of the total respondents, 92 were male while 208 were female, comprising the participants in this research endeavor. Based on the survey findings, the majority of responses came from respondents aged between 21 and 30 years old, comprising a total of 254 respondents, which accounts for 85% of the sample. The second highest group consisted of respondents below 20 years old, with 15 respondents (5.0%). Following this group, 12 respondents fell within the age of 41-50 years old and were above 50 years old, constituting 4.0% of the total. Only 7 respondents (2%) were in the age range of 31-40 years old. Analysis of the race demographics reveals three primary categories: Chinese, Indian, and Malay. The largest proportion of respondents identified as Chinese, comprising 85% of the total sample, with 253 individuals participating in the survey. The second highest representation was from the Malay ethnic group, accounting for 8.3% of respondents, equivalent to 25 participants. The smallest portion of the surveyed population identified as Indian, representing 7.3% of the total, with 22 respondents indicating this ethnicity. Occupational data from the survey reveals that the majority of respondents, constituting 77% of the sample, identified as students, totaling 230 individuals. Those who indicated they were employed comprised 20.3% of the sample, with 61 respondents falling into this category. A smaller proportion, comprising 1.7% of the sample, reported being unemployed, with 5 individuals indicating so. Additionally, 1.3% of respondents, totaling 4 individuals, identified as retired. The survey data regarding online grocery shopping usage indicates that the majority of respondents, accounting for 83% of the sample, reported using such services, totaling 249 individuals. Conversely, 17% of respondents, comprising 51 individuals, indicated that they do not utilize online grocery shopping services.

Table 2: Reliability Analysis

<b>Dependent Variable</b>	<b>Cronbach's Alpha</b>	<b>Number of Item</b>
Consumer 's intention in continuing online grocery shopping	0.817	5
<b>Independent Variables</b>	<b>Cronbach's Alpha</b>	<b>Number of Item</b>
Perceived Convenience (Pc)	0.844	5
Perceived Risk (Pr)	0.804	5
Service Quality (Sq)	0.790	5
Social Influence (Si)	0.782	5
Cultural Factors (Cf)	0.743	5

In this study, Cronbach's alpha, a widely used reliability measurement, was used to analyse the internal consistency of each construct. The results in the table above show that all Cronbach's alpha values for the items meet the recommended level of 0.70, outlined by Sekaran (2000), suggesting acceptable reliability. According to Sekaran (2000), a Cronbach's alpha value of less than 0.70 means low dependability, whereas a value of 0.70 or higher represents excellent reliability.

The table illustrates the reliability test findings, which include Cronbach's alpha values for five independent variables and one dependent variable. The independent variables include perceived convenience with Cronbach's Alpha 0.844, perceived risk with Cronbach's Alpha 0.804, service quality with Cronbach's Alpha 0.790, social influence with Cronbach's Alpha 0.782, and cultural factors with Cronbach's Alpha 0.743. All variables reach the minimum level, demonstrating strong reliability. Similarly, the dependent variable, consumer intention to continue online grocery shopping, has a Cronbach's alpha of 0.817, stating the general reliability of the data and the consistency of the study's variables.

Table 3: Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std.Error	Beta	t	
(Constant)	0.567	0.258		2.193	0.029
Pc	0.348	0.064	0.315	5.440	0.001
Pr	0.106	0.047	0.119	2.257	0.025
Sq	0.188	0.070	0.171	2.682	0.008
Si	0.309	0.062	0.294	4.968	0.001
Cf	-0.141	0.057	-0.140	-2.499	0.013

As per the findings presented in Table 3, the independent variables demonstrate positive associations as analyzed through SPSS. A p-value equal to or less than 0.05 suggests acceptance of multiple linear regressions as indicating a positive relationship. Therefore, table 3 shows that Perceived Convenience (Pc), Perceived Risk (Pr), Service Quality (Sq), Social Influence (Si) and Cultural Factors (Cf) has a significant positive relationship toward consumer's intention in continuing online grocery shopping. This is because the p value of each variable are less than 0.05.

Table 4: Hypotheses Summary

No.	Hypothesis	P-Value	Results
H1	There is a significant relationship between perceived convenience and consumer's intention in continuing online grocery shopping post covid19 pandemic.	0.001	Supported
H2	There is a significant relationship between perceived risk and consumer's intention in continuing online grocery shopping post Supported covid19 pandemic.	0.025	Supported

H3	There is a significant relationship between service quality and consumer 's intention in continuing online grocery shopping post covid19 pandemic.	0.008	Supported
H4	There is a significant relationship between social influence and consumer 's intention in continuing online grocery shopping post covid19 pandemic.	0.001	Supported
H5	There is a significant relationship between cultural factors and consumer 's intention in continuing online grocery shopping post covid19 pandemic.	0.013	Supported

All hypotheses have been affirmed, with their respective p-values indicating significance below 0.05. The details of these hypotheses are outlined in Table 4.

## 5. Discussion

This research analyzed data from 300 respondents to understand the factors driving consumers' intention to continue using online grocery shopping post-pandemic. The findings revealed that the majority of respondents were young females (69.3%) aged between 21 and 30 years old (84.7%) primarily students(76.7%), who heavily relied on online grocery services.

Through reliability testing, all factors, including perceived convenience, perceived risk, service quality, social influence, and cultural factors, demonstrated strong internal consistency. Further analysis using Pearson correlation and multiple regression methods uncovered significant relationships between these factors and consumers' intention to continue online grocery shopping. Specifically, perceived convenience, perceived risk, service quality, social influence, and cultural factors all emerged as influential drivers, highlighting the importance of convenience, quality service, and social influences in shaping consumer behavior.

The discussion of these findings underscores the multifaceted nature of consumer decision-making in the realm of online grocery shopping. Despite potential risks and uncertainties, consumers are drawn to the convenience, perceived quality, and social recommendations associated with online platforms. These findings suggest that businesses in the online grocery sector must prioritize factors such as service quality, convenience, and social engagement to maintain and attract customers post-pandemic. Moreover, understanding cultural influences and societal norms can further enhance strategies to retain customers in this increasingly competitive market.

The study's findings provide significant insights into these determinants, thus filling the identified knowledge gap. First, the study found a significant positive relationship between perceived convenience and consumers' intention to continue online grocery shopping. This finding highlights the ongoing importance of convenience as a key driver for continued use of online grocery platforms.

Furthermore, the research found that perceived risk has a significant negative impact on consumers' intention to continue using online grocery services. Despite the growth in online shopping, concerns about security, product quality, and delivery reliability continue to deter some consumers. This finding

underscores the need for better security measures, reliable delivery services, and transparent product information to mitigate these concerns and support sustained online shopping behaviors.

Additionally, the study identified a moderate positive relationship between service quality and consumers' intention to continue online grocery shopping. This emphasizes the importance of high service quality in the online grocery sector. It is important to focus on improving customer support, delivery accuracy, and user-friendly platforms to enhance consumer retention.

Lastly, social influence was also found to have a moderate positive effect on the intention to continue online grocery shopping. Cultural factors showed a moderate positive relationship with the intention to continue online grocery shopping. The findings related to social influence and cultural factors introduce a broader perspective on consumer behavior, suggesting that peer influence and cultural contexts significantly shape online shopping preferences.

Overall, the study significantly contributes to the existing body of knowledge by providing a comprehensive analysis of the factors influencing the continuation of online grocery shopping post-COVID-19. The empirical evidence gathered from 300 respondents offers valuable insights that fill the identified knowledge gaps. It validates the continued relevance of convenience, underscores the importance of mitigating perceived risks, highlights the critical role of service quality, and reveals the significant impact of social and cultural factors.

The findings of this study on consumers' intentions to continue online grocery shopping post-COVID-19 have significant implications for various stakeholders, including businesses, government agencies, individual consumers, and NGOs. Understanding these factors can help these parties make informed decisions and implement strategies that enhance market efficiency and consumer welfare.

The study highlights the crucial role of perceived convenience, service quality, and social influence in consumer decisions. Businesses should enhance the online shopping experience by creating user-friendly platforms, ensuring reliable deliveries, and maintaining high customer service standards. Investing in technology to streamline shopping processes can reduce perceived risks and build trust. Retailers should use targeted marketing to appeal to specific demographics and emphasize the safety and convenience of online shopping. Additionally, addressing the lack of product information by providing detailed descriptions, customer reviews, and transparent pricing can enhance consumer confidence.

The government can use the study's insights to develop regulatory frameworks that protect consumers and encourage fair competition among online grocery retailers. Policies that ensure the security of online transactions and the protection of personal data can help mitigate perceived risks associated with online shopping. Investments in digital infrastructure, such as improving internet connectivity and supporting logistics networks, can further facilitate the growth of online grocery shopping. Additionally, government initiatives to enhance digital literacy can empower more consumers to engage confidently with online platforms. Policymakers can also create incentives for innovation in the online grocery sector by supporting startups and small businesses through grants or tax benefits, fostering a competitive and dynamic market that benefits consumers through better services and lower prices.

The study provides valuable insights that can help individual consumers make more informed choices regarding online grocery shopping. By understanding the importance of service quality and the availability of detailed product information, consumers can better evaluate and select online grocery platforms. Additionally, consumers can use the study's findings to advocate for better services from retailers. By voicing their preferences for transparency, quality, and convenience, consumers can influence market standards and drive improvements in the online shopping experience.

NGOs can leverage the study's insights to develop consumer education programs that address the perceived risks of online grocery shopping. These programs can focus on educating consumers about online security practices, their rights, and how to make safe online transactions. Furthermore, the study can help NGOs identify ways to support vulnerable populations who may benefit significantly from the

convenience of online grocery shopping but face barriers to access. Initiatives could include providing resources for digital literacy, facilitating access to technology, or offering subsidies for online grocery purchases.

Moreover, the comprehensive insights from this study on consumers' intentions to continue online grocery shopping post-COVID-19 pandemic provide a valuable foundation for various stakeholders to make better decisions. Businesses can refine their strategies to enhance consumer satisfaction, governments can create supportive policies, individuals can make informed choices, and NGOs can develop targeted programs to support and educate consumers. Ultimately, these collective efforts can lead to a more efficient, secure, and consumer-friendly online grocery shopping landscape, improving the overall welfare of society.

However, this study has several limitations that should be noted. Recognizing and addressing these limitations is crucial for future research to improve quality and comprehensiveness. One significant limitation is the time constraint, as the research had to be completed within a 14-week period for Chapters 4 and 5, covering data collection and result analysis. This tight schedule limited the ability to gather a large and diverse group of respondents, potentially affecting the representativeness of the findings.

Secondly, the study's sample size and demographic scope may not fully represent the broader population. With a significant proportion of respondents being young adults and students, the findings might not accurately reflect the perspectives of older age groups or those with different occupational backgrounds. This demographic skew could limit the generalizability of the results to a wider audience. This study is focused on a specific region or country, which limits its generalization. Consumer behavior can vary greatly due to cultural, economic, and technological differences across regions.

Thirdly, the study relies on self-reported data collected through questionnaires, which may be subject to biases such as social desirability bias and recall bias. Respondents might have provided answers they believe are expected rather than their true feelings or behaviors. This can affect the accuracy and reliability of the findings.

Additionally, the study primarily examines factors like convenience, risk, service quality, social influence, and cultural aspects. However, it does not delve deeply into other important influences on consumer behavior, such as economic conditions, technological changes, and market competition. Including these factors could offer a more comprehensive understanding of what drives consumer intentions.

The impact of external variables such as changes in food prices, supply chain disruptions, or economic downturns experienced during the pandemic may not be adequately controlled in the existing research (Trude et al., 2025; Galushko & Riabchyk, 2024). This oversight could skew the results as these factors can significantly influence consumer behavior and shopping preferences.

Lastly, the use of SPSS software posed a challenge due to a lack of experience and skills. As this was the first time using the software, additional time was needed to learn and navigate its functions. SPSS offers various methods for different analyses, requiring careful attention to data entry to ensure accuracy, as any mistakes could impact the entire process.

For future researchers looking to conduct similar studies, here are a few suggestions. First, extending the research period beyond 14 weeks would allow for more in-depth data collection and analysis. This would enable researchers to gather a larger and more diverse group of respondents, resulting in more representative findings. Since this study only collected 300 questionnaires, future researchers should consider increasing the number of respondents. This can improve the consistency and accuracy of the results.

Additionally, future studies should aim to include a wider range of participants from different age groups, job backgrounds, and regions. This can help ensure the results are more reflective of the broader population. Furthermore, future studies should look at more factors that influence consumer behavior,

such as economic conditions, technological changes, and market competition, in addition to convenience, risk, service quality, social influence, and cultural aspects.

Researchers should also improve their skills with analytical tools like SPSS. Providing training through workshops, tutorials, or working with experienced analysts can help ensure accurate data entry and analysis. Finally, conducting long-term studies can show how consumer behavior changes over time, allowing researchers to track trends and understand long-term influences on consumer decisions.

## **6. Conclusion**

This study examined factors influencing consumers' intention to continue online grocery shopping following the COVID-19 pandemic. Through empirical investigation of 300 Malaysian consumers, we identified significant relationships between all five independent variables and continuation intention. Perceived convenience and social influence emerged as the strongest predictors, highlighting the importance of user-friendly platforms and social validation in sustaining online grocery shopping behaviors beyond pandemic restrictions.

Our findings contribute to both theory and practice by validating an integrated model that combines elements from Technology Acceptance Model, SERVQUAL, Social Influence Theory, and Hofstede's Cultural Dimensions in the specific context of post-pandemic online grocery shopping. The study advances theoretical understanding of how utilitarian factors (convenience, risk, quality) interact with social and cultural dimensions to shape continuation intentions during market transitions from necessity-driven to voluntary consumer behavior.

For practitioners, our results emphasize the importance of designing intuitive interfaces, ensuring reliable fulfillment, providing comprehensive product information, and leveraging social proof to enhance consumer retention. The negative relationship between cultural factors and continuation intention suggests that retailers should develop culturally sensitive approaches to address barriers to continued usage, particularly for consumers who value in-person shopping experiences.

This research has several limitations. The sample was predominantly young, female university students, limiting generalizability across demographic groups. The cross-sectional design captures intentions at a specific point in the pandemic recovery rather than actual behavior over time. Future research should employ longitudinal approaches to track how intentions translate to behaviors, expand demographic diversity, incorporate additional variables such as economic factors and competitive market dynamics, and explore cross-cultural comparisons to enhance understanding of post-pandemic online grocery shopping behaviors.

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## Appendix

### Questionnaire

Questions	Source
<p><b><u>Consumer 's intention in continuing online grocery shopping</u></b></p> <ul style="list-style-type: none"> <li>❖ I prefer to buy grocery online.</li> <li>❖ I will purchase a product on the internet.</li> <li>❖ I frequently shop online grocery for needs.</li> <li>❖ I have the intention to shop online whenever appropriate.</li> <li>❖ I have the intention to continue buying things online.</li> </ul>	(Cheng et al., 2022)
<p><b><u>Perceived Convenience</u></b></p> <ul style="list-style-type: none"> <li>❖ I could order any time I wanted.</li> <li>❖ I could find what I wanted without having to look elsewhere.</li> <li>❖ It was easy to get the information I needed to make my purchase decision.</li> <li>❖ It take a short time to complete the purchase process.</li> <li>❖ It took a minimal amount of effort on my part to get what I wanted.</li> </ul>	(Beauchamp & Ponder, 2010)
<p><b><u>Perceived Risk</u></b></p> <ul style="list-style-type: none"> <li>❖ I feel that online grocery shopping is risky.</li> <li>❖ I feel that online grocery shopping or transaction is not secure.</li> <li>❖ I fear that online grocery shopping companies might disclose my personal information.</li> <li>❖ I experienced being overcharged for my online purchase.</li> <li>❖ I received a different quality for the product that I purchased.</li> </ul>	(Cheng et al., 2022)
<p><b><u>Service Quality</u></b></p> <ul style="list-style-type: none"> <li>❖ The purchasing process was not difficult.</li> <li>❖ The online grocery shop has customer service representatives available online.</li> <li>❖ The online grocery shop provides me with convenient options for</li> </ul>	(Rita et al., 2019)

<p>returning items.</p> <ul style="list-style-type: none"> <li>❖ The ordered products arrived in good condition.</li> <li>❖ It quickly delivers what I order.</li> </ul>	
<p><b><u>Social Influence</u></b></p> <ul style="list-style-type: none"> <li>❖ I gathered information from friends, family, or social media about the product before I buy.</li> <li>❖ If I want to be like someone, I often try to buy the same product or brand the buy.</li> <li>❖ If I have little experience with a product, I often ask friends, family, or social media about the product.</li> <li>❖ When buying products, I generally purchase brands that I think friends, family, or social media would approve of.</li> <li>❖ To make sure I buy the right product or brand, I often observed what friends, family, or social media are buying and using.</li> </ul>	(Fu et al., 2020)
<p><b><u>Cultural Factors</u></b></p> <ul style="list-style-type: none"> <li>❖ For me online grocery shopping is consumed by the higher class in the society with extra money to spend. It is expensive for those with low incomes.</li> <li>❖ For me, it is crucial to visit physical grocery shop with my family, work colleagues, or friends than online grocery shop.</li> <li>❖ I will rather go physical grocery shop than shop online grocery shop, because the family bond, care, and dependence are important to me.</li> <li>❖ I am not sure about the quality of grocery, so I often hesitate when I shop online grocery shop.</li> <li>❖ When I buy from one online grocery shop, I stay with them and I do not like to change even if there are cheaper options offered by other online grocery shop, because I will not like to take the risk of trying other online grocery shop.</li> </ul>	(Asamoah & Chovancová, 2016)